

## **Water Conservation & Management Plan Requirements**

**The Ground Water Withdrawal Regulations** require a Water Conservation and Management Plan as a stand-alone attachment for permit issuance:

The Water Conservation and Management Plan is to include, at a minimum, the following:

### **From the Application Instructions :**

- ◆ Requirements for the use of water saving plumbing and processes including, where appropriate, the use of water saving fixtures in new and renovated plumbing as provided in the Uniform Statewide Building Code;
- ◆ A water loss reduction program;
- ◆ A water use education program;
- ◆ An evaluation of potential water reuse options;
- ◆ Requirements for mandatory water use reductions during water shortage emergencies declared by the local governing body or the Director of DEQ, including, where appropriate, ordinances prohibiting the waste of water generally and requirements for mandatory water use restrictions, with penalties during water shortage emergencies.

### **Further description from the Regulation:**

#### **9VAC25-610-100. Water conservation and management plans.**

**A.** Any application to initiate a new withdrawal or expand an existing withdrawal in any ground water management area or the reapplication at the end of a permit cycle for all permits shall require a water conservation and management plan before the application or reapplication is considered complete.

**B.** A water conservation and management plan shall include:

1. Requirements for the use of water saving plumbing and processes including, where appropriate, the use of water saving fixtures in new and renovated plumbing as provided in the Uniform Statewide Building Code;
2. A water loss reduction program;
3. A water use education program;
4. An evaluation of potential water reuse options; and
5. Requirements for mandatory water use reductions during water shortage emergencies declared by the local governing body or director including, where appropriate, ordinances prohibiting the waste of water generally and requirements providing for mandatory water use restrictions, with penalties, during water shortage emergencies.

C. The board shall review all water conservation and management plans and assure that such plans contain all elements required in 9VAC25-610-100 B. The board shall approve all plans that:

1. Contain requirements that water saving fixtures be used in all new and renovated plumbing as provided in the Uniform Statewide Building Code;
2. Contain requirements for making technological, procedural, or programmatic improvements to the applicant's facilities and processes to decrease water consumption. These requirements shall assure that the most efficient use is made of ground water;
3. Contain requirements for an audit of the total amount of ground water used in the applicant's distribution system and operational processes during the first two years of the permit cycle. Subsequent implementation of a leak detection and repair program will be required within one year of the completion of the audit, when such a program is technologically feasible;
4. Contain requirements for the education of water users and employees controlling water consuming processes to assure that water conservation principles are well known by the users of the resource;
5. Contain an evaluation of potential water reuse options and assurances that water will be reused in all instances where reuse is feasible;
6. Contain requirements for mandatory water use restrictions during water shortage emergencies that prohibit all nonessential uses such as lawn watering, car washing, and similar nonessential residential, industrial and commercial uses for the duration of the water shortage emergency; and
7. Contain penalties for failure to comply with mandatory water use restrictions.

**Statutory Authority**

§§62.1-44.15(10) and 62.1-256 of the Code of Virginia.

**Historical Notes**

Derived from VR680-13-07 §3.2; eff. September 22, 1993.

9VAC25-610-

## DEQ Guidance Manual Information

WATER CONSERVATION & MANAGEMENT PLAN (WCMP) RO reviews item 13 on the application to determine if the water conservation and management plan provided by applicant satisfies the requirements as described in 9 VAC 25-610-100 of the Ground Water Withdrawal Regulations. **The purpose for developing a WCMP is to insure that the amount of water requested is the least necessary to support the beneficial use and that established conservation measures will be sustained over the life of the permit.** Implementation of the water conservation and management plan shall be included as enforceable permit conditions. Approvable WCMPs are site specific and shall contain the following elements:

- (a) Requirements for the use of water saving plumbing and processes including, where appropriate, the use of water saving fixtures in new and renovated plumbing as provided in the Uniform Statewide Building Code.

A plan that contains requirements that water saving fixtures be used in all new and renovated plumbing as provided in the Uniform Statewide Building Code meets the above element. This may not be appropriate in all cases, especially some industrial or agricultural facilities. If so, the Plan should discuss the suitability and the RO staff should evaluate the correctness or other possible water saving devices that could be implemented.

- (b) A water loss reduction program.

A plan that contains requirements for making technological, procedural, and/or programmatic improvements to the applicant's facilities and processes to decrease water consumption meets the above element. These requirements shall assure that the most efficient use is made of ground water.

A plan that contains requirements for an audit by the permittee of the total amount of ground water used in the applicant's distribution system and operational processes during the first two years of the permit cycle meets the above element. Subsequent implementation of a leak detection and repair program will be required within one year of the completion of the audit, when such a program is technologically feasible.

There may be other methods to implement a water loss reduction program, which can be proposed by the facility and evaluated by the RO staff.

- (c) A water use education program.

A plan that contains requirements for the education of water users and employees controlling water consuming processes to assure that water conservation principles are well known by the users of the resource meets the above element.

- (d) An evaluation of water reuse options.

A plan that contains an evaluation of potential water reuse options and assurances that water will be reused in all instances where reuse is feasible meets the above element.

- (e) Requirements for mandatory water use reductions during water shortage emergencies declared by the local governing body or director of DEQ, including, where appropriate, ordinances prohibiting the waste of water generally and requirements providing for mandatory water use restrictions, with penalties, during water shortage emergencies.

For a municipal public water supply applicant, a plan that contains requirements for mandatory water use restrictions during water shortage emergencies declared by the local governing body or director of DEQ that prohibit all non-essential uses such as lawn watering, car washing, and similar non-essential residential, industrial and commercial uses for the duration of the water shortage emergency and an ordinance containing the above plus penalties for failure to comply with mandatory water use restrictions meets the above element.

For a non-municipal public water supply applicant, a plan that contains requirements for mandatory water use restrictions during water shortage emergencies declared by the local governing body or director of DEQ that prohibit all non-essential uses such as lawn watering, car washing, and/or similarly appropriate non-essential uses for the duration of the water shortage emergency meets the above element.

For non-public water supply applicants a plan that contains requirements for compliance with mandatory water use restrictions during water shortage emergencies declared by the local governing body or director of DEQ meets the above requirement.

Permittees are to maintain a record logging the dates activities required in the WCMP are completed. These logs are to be made available to DEQ staff upon request.

### **Water Conservation and Management Plan Issues Encountered that Add Processing Time :**

- We generally do have a good amount of back and forth in working through a Plan
- Canned plans had become the expected quality, and effort toward a system specific plan is often not expected. Sometimes hard to get this aspect taken seriously and get real effort put into it.
- Applicants not sure how to prepare or not good at getting what they practice on paper in the form of a Plan, even though they have good measures in place
- Ordinance issues and blending in with Planning requirements (not wasting water generally, turn off capabilities, emergency declaration, penalties, restricting private well use and installation)
- Achieving Commitment wording; i.e., will vs. could
- -Getting system specific plans that are meaningful to the operation and water users, and getting plans that cover the conservation potentials of the significant users (i.e. need for individual plans for industries or high water use customers)
- reuse options
- lawn irrigation issues
- -shallow water wells: water table wells ok? Limiting the installation of private wells to only the water table aquifer or not allowing at all (what is appropriate may depend on the area)
- -education efforts

### **Options :**

- Changes to regulation needed??
- Addition of guidance and lists of topics or questions, etc
- Example or model plans where appropriate and guidance on preparation for those that don't fit into example plans
- Others

### **Basic Purpose of Water conservation and Management Plans**

**The purpose for developing a WCMP is to insure that the amount of water requested is the least necessary to support the beneficial use and that established conservation measures will be sustained over the life of the permit.**

## **Draft Example Water Conservation & Management Plan Guidance**

### **WATER CONSERVATION AND MANAGEMENT PLAN:**

**General Outline Concepts** – Note: the plan should include activities that **are being done** and/or **will be added** to cover the Plan requirements or needs of the system. The Plan can include goals and timelines for the future to improve water savings, etc. but items included should be those that can and will be done. Keep in mind that the Plan, once accepted, will become an enforceable part of the Ground Water Withdrawal Permit when issued.

#### **Purpose**

Examples:

- conservation of water resource
- reduce long term costs of water supply to town
- ensure that water withdrawal stays within permitted amount

**System Information** – provide a general description of the system and water supply needs for the beneficial uses

- types of customers or uses, residential , commercial, municipal, industrial, non-metered users, etc.
- size of system and customer base, number of wells, treatment, expected growth, planned or needed improvements, etc

For businesses, etc. discuss how is water used during the various activities and what water conservation measures or practices are used. (Are there ways to accomplish the task, etc. with using less water?)

**Goals** – are there specific actions identified for the particular system that could result in water saving and potentially costs savings for the system operation? (Note: identified actions may require that funding be secured. If so, the need for funding to accomplish the goal and the needed timetable to accomplish the goal should be explained.)

for example:

- are there industrial or commercial uses that could be modified to reuse water or use recycled water or otherwise conserve water
- is there potential for reducing the amount of unaccounted for water loss
- are there known leaks or problems areas in the system that can be focused on to reduce water waste
- are there opportunities for educational actions that can be taken to lessen water use
- are there opportunities for outdoor water use restrictions to be put in place that can reduce seasonal high water use, reduce winter water loss from line leaks, etc.
- are ordinances needed to discourage or prevent the waste of water

#### **Water Saving Plumbing and Processes Requirements**

- adherence to Uniform Statewide Building Code requirements, etc.

**Water Loss Reduction Program** – description of how the water use in the system is monitored, how leaks are detected and repaired, and how unaccounted for water loss is evaluated and reduced.

#### **Meter use and management**

- metered customers
- non-metered water users or uses; backflushing, water treatment, fire hydrants, etc.

#### **Water Use Monitoring**

- how often are meters read
- how often is the amount withdrawn compared to the metered use amounts (and an estimated amount for non-metered use (basic audit)

## **Draft Example Water Conservation & Management Plan Guidance**

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-how is excessive use possibly indicating leaks on the customer **or** supply side of the system identified

### System maintenance

- meter repair and replacement programs
- water audits (a thorough water audit is recommended within two years of the permit issuance)
- leak detection & repair activities
- water line maintenance and repair program or activities
- any recent or planned improvements to water infrastructure

### Record Keeping

- who keeps records of the monitoring and repair activities, for how long, and where are records kept

**Water Use Education Program** – include activities or actions to be used to inform water users of the requirements for using water saving plumbing and fixtures, outdoor water conservation measures and requirements, potential indoor water conservation measures, etc. and overall promote water conservation awareness.

- flyers in billings
- rate structures aimed at promoting water conservation
- billing that clearly shows gallons used per day
- school water use education programs

**Evaluation of Potential Water Reuse Options** – this section needs to discuss the potential for reuse options for the specific water system and customer uses. The evaluation needs to be water system specific but interaction with municipalities, etc. may be needed to fully evaluate options. If no potentials are identified, at least not at this time, a statement can be made that water reuse options will be re-evaluated as more options and technologies, etc. become available.

**Water Management During Drought or Water Use Emergencies** - describe the actions to be taken during drought or water use emergencies to conserve the water supply, as well as to conform to and promote conformance to required restrictions.

- this section must include requirements for mandatory water use reductions during water shortage emergencies declared by the local governing body or the Director of DEQ, including, where appropriate, ordinances prohibiting the waste of water generally and requirements for mandatory water use restrictions, with penalties during water shortage emergencies.
- tiered restrictions based on triggers are often used for levels of drought
- town or county ordinances should be in place to address restrictions, etc.
- penalties for not following restrictions should be described

**Draft Possible additions :**

- **Lawn Irrigation**
- **Swimming Pool water conservation**
- **Additions for various types of users (hotels, schools, retail, commercial, laundries, correctional facilities, industrial, etc.)**